

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (cancelled)

2. (currently amended) ~~The tilt correcting apparatus according to claim 1~~

A tilt correcting apparatus for correcting a tilt amount of a light beam to be radiated from a pickup to a disk, the apparatus comprising:

a pre-pit signal producer configured to produce a pre-pit signal indicative of an existence/nonexistence of a pre-pit formed on the disk on the basis of returned light of the light beam radiated onto the disk;

an RF signal producer configured to produce an RF signal from bits of information recorded on the disk on the basis of the returned light;

a correcting-amount deciding unit configured to decide an optimum tilt-correcting amount by measuring an offset amount on the basis of a relationship between the pre-pit signal and the RF signal and making use of the measured offset amount; and

a tilt corrector configured to correct the tilt amount on the basis of the optimum tilt-correcting amount,

wherein the correcting-amount deciding unit comprises:

a first detecting device configured to detect a first tilt amount providing an amount of the tilt maximizing the amplitude of the RF signal;

a second detecting device configured to detect a second tilt amount providing an amount of the tilt maximizing an amplitude of the pre-pit signal;

a calculating device configured to calculate an offset tilt amount indicative of a difference between the first and second tilt amounts; and

a deciding device configured to decide the optimum tilt-correcting amount using

the offset tilt amount.

3. (original) The tilt correcting apparatus according to claim 2, wherein the correcting-amount deciding unit further comprises boundary detecting device configured to detect a boundary existing between an information-recorded region and an information-non recorded region on the disk, wherein the first detecting device is configured to detect the first tilt amount in the information-recorded region near the boundary, and the second detecting device is configured to detect the second tilt amount in the information-non recorded region near the boundary.

4. (original) The tilt correcting apparatus according to claim 2, wherein the correcting-amount deciding unit is configured to decide the optimum tilt-correcting amount on the basis of the RF signal when the tilt amount in the information-recorded region on the disk is corrected and to decide the optimum tilt-correcting amount on the basis of the LPP signal and the offset tilt amount when the tilt amount in the information-non recorded region on the disk is corrected.

5. (original) The tilt correcting apparatus according to claim 2, wherein the correcting-amount deciding unit is configured to decide, as the optimum tilt-correcting amount, a tilt-correcting amount corresponding to the first tilt amount when the tilt amount in the information-recorded region on the disk is corrected and to decide, as the optimum tilt-correcting amount, a tilt-correcting amount corresponding to a sum of the second tilt amount and the offset tilt amount.

6. (currently amended) The tilt correcting apparatus according to claim 21, wherein the correcting-amount deciding unit further comprises a correction profile producing device configured to allow the optimum tilt-correcting amount to be obtained at each correcting reference position determined previously on the disk and configured to produce a correction profile consisting of the optimum tilt-correcting amount at each correcting reference position; and wherein the tilt corrector is configured to correct the tilt amount on the basis of the correction profile.

7. (original) The tilt correcting apparatus according to claim 6, further comprising a disk rotation controller configured to make the disk rotate, the disk rotation controller configured to make the disk rotate at a constant angular velocity in cases where the correcting-amount deciding unit obtains the optimum tilt-correcting amount at each correcting reference position.

8. (currently amended) The tilt correcting apparatus according to claim 24, further comprising a memory configured to memorize the optimum tilt-correcting amount obtained at each of a plurality of radial positions of the disk.

9. (currently amended) A tilt correcting method of correcting a tilt amount of a light beam to be radiated from a pickup to a disk, the method comprising the steps of:

producing a pre-pit signal indicative of an existence/nonexistence of a pre-pit formed on the disk on the basis of returned light of the light beam radiated onto the disk;

producing an RF signal from bits of information recorded on the disk on the basis of the returned light;

deciding an optimum tilt-correcting amount by measuring an offset amount on the basis of a relationship between the pre-pit signal and the RF signal and making use of the measured offset amount; and

correcting the tilt amount on the basis of the optimum tilt-correcting amount,

wherein the step of correcting the tilt amount includes the steps of:

detecting a first tilt amount providing an amount of the tilt maximizing the amplitude of the RF signal;

detecting a second tilt amount providing an amount of the tilt maximizing an amplitude of the pre-pit signal;

calculating an offset tilt amount indicative of a difference between the first and second tilt amounts; and

deciding the optimum tilt-correcting amount using the offset tilt amount.